Mobile IPv4 DHCP Configuration Extension

Kent Leung, George Tsirtsis
MIP4 Working Group – IETF 75
Stockholm, Sweden
July 27, 2009
Overview

- MN obtains host configuration via DHCP options with Mobile IP assistance
- Configuration parameters from home domain only
- MN has DHCP client function or capable of processing DHCP Ack message
- VPN domain (VRF) consideration for DHCP server location via DHCP Virtual Subnet Selection (VSS) Option
- Proxy Mobile IPv4 integration – DHCP Ack includes the obtained DHCP options
A) Proxy DHCP

1. RRQ w/DHCP Config Req Ext

2. DHCP Discover

3. DHCP Offer

4. DHCP Request

5. DHCP Ack

6. RRP w/DHCP Config Ack Ext

B) Direct Mode

1. RRQ w/DHCP Config Req Ext

2. RRP w/DHCP Server Inform Ext

3. DHCP Inform

4. DHCP Ack

5. DHCP Ack embedded in extension

VSS Option in messages (draft-ietf-dhc-vpn-option)

DHCP Ack embedded in extension

DHCP Server IP address in extension
Extensions

- DHCP Configuration Request Ext
- DHCP Configuration Ack Ext
- DHCP Server Inform Ext
Summary

- Configuration info from the visited domain
- Signaling efficiency
- Built-in authentication of the configuration,
- Extensible parameters
- Support for non-DHCP capable MN
- Filter DHCP message into home domain
- Avoid IP address management conflict between MIP and DHCP
- Avoid use of broadcast

Legend: Pro - + Con - -

draft-ietf-mip4-gen-ext
Proxy DHCP and Direct Mode
Proxy DHCP
Proxy DHCP
Proxy DHCP and Direct Mode
draft-ietf-mip4-gen-ext
Proxy DHCP
Proxy DHCP and Direct Mode
Proxy DHCP and Direct Mode